BULLETIN

OF THE

Northeastern Bird-Banding Association

Vol. IV October, 1928 No. 4

LAUGHING GULLS—MAKING A LANDING

See page 156

NORTHEASTERN BIRD-BANDING ASSOCIATION

95 South Street, Boston, Mass.

Francis Beach White, *President*
Laurence B. Fletcher, Mass.
Harrison F. Lewis, Eastern Canada
Henry S. Shaw, New Hampshire
Francis H. Allen, Mass.
Charles L. Whittle, New Hampshire
Vice-Presidents
Mrs. Alice B. Harrington, *Recording Secretary*
Charles B. Floyd, *Secretary and Treasurer*

COUNCILORS

Mrs. Horace C. Dunham, Mass.
Richard B. Harding, Mass.
Dr. John B. May, Mass.
R. O. Montambault, Quebec
Prof. Frederick A. Saunders, Mass.
Wendell P. Smith, Vermont
L. McI. Terrill, Quebec
Robie W. Tufts, Nova Scotia
Dr. Winsor M. Tyler, Mass.

Editor, Charles L. Whittle,
River Crossroads, Peterboro, N. H.

Associate Editors
Francis H. Allen
John T. Nichols
Dr. Winsor M. Tyler

FORMER PRESIDENTS OF THE NORTHEASTERN BIRD-BANDING ASSOCIATION

Edward H. Forbush	1922–1923
Charles W. Townsend, M.D.	1923–1924
Professor Alfred O. Gross	1924–1926
Francis H. Allen	1926–1928
Francis Beach White	1928–

S. Prentiss Baldwin, *Honorary President*

Subscriptions to the Bulletin are offered at one dollar and fifty cents per year. Address Charles B. Floyd, Treasurer, N.E.B.B.A., 95 South Street, Boston, Mass.

BULLETIN

OF THE

NORTHEASTERN BIRD-BANDING ASSOCIATION

A BIRD RESEARCH LABORATORY[1]

BY S. PRENTISS BALDWIN

PERHAPS it was in 1914 that traps were first set on the farm to reduce if possible the number of House Sparrows, which so occupied our bird boxes, as well as our bird attention, that we could find very few native birds. A wise father had taught us years before to put up boxes for Wrens and Bluebirds. Let us digress here to say that it is a wise child who selects a father who has sufficient interest in nature to take the child out and open his eyes to see the flowers and birds. Forever after, that child finds the woods and fields full of his friends and companions when human associates may fail him.

The traps caught native birds as well as the House Sparrows. We heard about the numbered bands, and, procuring some, we placed them on about ninety native birds that first season. When some of these birds came back the next season, they really were old friends, and they so inspired us with enthusiasm that we set more traps, and from that day to this, now fourteen years, we have banded each season some hundreds of new birds, and we now take from our traps each season more birds of previous years than the total number of birds banded that first year.

For example, this year (1928) we have taken of House Wrens alone forty-three birds banded during previous years, thirty-seven of them adults of previous acquaintance in our neighborhood and six of them young birds hatched and raised in our neighborhood last year. And we have taken this year a hundred or more birds of other species that prove to be old friends banded during previous years. During the first six years, until 1920, bird-banding was discouraging business, not for any lack of birds coming back, but because banding then had not achieved a position in the scientific world and family and friends regarded it only as a foolish way to waste idle time. Our sporting friends thought we were given to a

[1] Contribution No. 16, Baldwin Bird Research Laboratory.

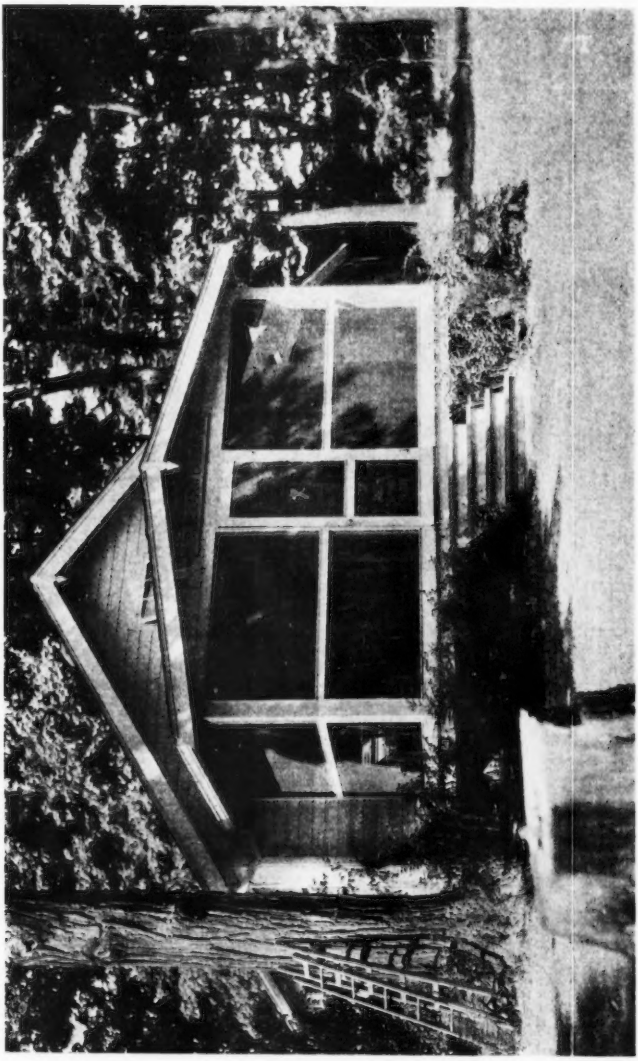
sort of old ladies' game, trapping little birds in the yard, when we might be shooting real game for sport and eating. It takes courage, and patience, and a sort of dogged persistence to follow up your hobby under such conditions.

The tide turned a bit when in November, 1919, we made our début before the American Ornithologists' Union and presented a long list of birds that had come back to us at the farm near Cleveland, and at Thomasville, Georgia, some of them on several successive years.

Bird-banders are mostly familiar with the story as told by Doctor Nelson in the *National Geographic Magazine* for January, 1928, of the growth of bird-banding after it received the official sanction of the United States Biological Survey, and was adopted and promoted by the Survey. The great appeal of bird-banding to some was the fact that one need not kill the bird. In boyhood we had collected eggs and made bird-skins, and, being perhaps more persistent by nature, it was not given up, when all the other boys outgrew it. The older ornithologists all grew up that way, from collecting birds and eggs, and a few boys carried it to the point of scientific value and became great scientists. We bird-banders have no word of scorn for collecting; it was necessary and resulted in the careful study of species that has covered the world pretty thoroughly. We quite appreciated that along that line we could never equal the greater men, nor even make ourselves heard.

But to handle live birds, and often the same bird over and over again, day after day, and year after year (we had some as many as eight years), did not offend the conscience. Then the new method led, too, to so much accurate record of the life of the individual. It is an old story to you that we found it easy to trap the House Wrens on the nest and keep record of changes of mates, until we had many records that formed themselves into a story of marriage relations. And of course this appealed to the daily newspapers, which recognized the stories as similar to their pages devoted to daily news of human relations.

Another discovery led us quickly and directly to a bird laboratory. During the early years of study of the mating of Wrens we were mindful of the old tradition that you must not touch the nest or eggs of a bird or the bird will desert the nest. In the study of mating it was necessary to trap and band and thus handle the mates, but we carefully avoided the nest at other times and only went to it the two or three times necessary during one complete incubation. We even



BIRD RESEARCH LABORATORY

wrote somewhere that the way to attract birds to the premises was to keep cats away and provide food and water and *stay away from their nests.* It was all wrong, however, for most birds near home seem to become more and more tame and almost enjoy company and attention.

For some years it has been our laboratory rule to visit all nests within our area every day, mark the eggs and take them to the laboratory to weigh them, and to follow the same rule with young birds. Of thousands so handled we need cite only three examples: the one an incubating female Bluebird, whose body weight was being taken several times a day, and the assistant need only go to the box, throw open the cover, and reach in for her, with no attempt on her part to fly away; and another case where an assistant was putting glass thermometers down the throats of young wrens every day, and each time the mother bird came she would wait close by his hand for him to finish, then pop into the box to feed the youngsters. Yes and one other story, for this daily handling is really the whole foundation of laboratory work with live wild birds; that of an assistant taking a movie at four feet distance of a mother wren going in to feed the young, which did not disturb her activity; but when a stranger came within seventy feet of the nest she stopped work and began to scold. We confess that of thousands so handled a few have resented it and left the nest. Twice I believe Cedar Waxwing females have deserted; twice it has occurred with Crested Flycatchers; but it is a rare occurrence.

Dr. Leon Cole had long ago talked about a bird laboratory to study wild birds, and the growing interest in the intimate contact with birds led to the construction of a small building on the farm as an office—we at first called it; and the next year a larger building was necessary, a cottage we should call it, but having three work rooms, and another cottage as a lodge for a married assistant. Assistants? Yes that is running your hobby pretty strongly, to build cottages and undertake to supply the apparatus needed in a laboratory and then engage assistants to help in the work. A word is necessary about these assistants, for they are not mere boys, but trained young naturalists, and they come not for pay, but for love of the work. And it is no eight-hour day of work, for their enthusiasm keeps them at it every waking moment, usually sixteen hours instead of eight; and we catch them up at night to watch the nights of the House Wrens. The employment of assistants began at Thomasville, where a volunteer assistant could handle several thousand birds and

gain much banding experience in six weeks. During the last four seasons there have been two, or this year three, assistants during the nesting-season at Gates Mills, Ohio.

One question is always asked when we tell of this from the lecture platform. Last year you studied the House Wren; what bird will you study this year? To that we reply that we have studied the House Wren now eight years and we find more and more questions to answer, until we have plans for work for our laboratory for ten years more on the House Wren.

The field of work covers two areas. One area of ten acres about the laboratory is reserved for intensive laboratory work, and here it is that Mr. Kendeigh has now for three seasons studied the body temperature of birds. Mr. Kendeigh makes it his affair to know all the nests on this ten acres, whether of Wrens or of other species, to mark the territory of each male House Wren as he comes and establishes his right to possession, to identify and band each bird and the mates and the young, so that for years since that first marriage-relations story we have records of changes in mating. It is here that we have tried out the machines which make observations for us day and night though we may be asleep, the recording potentiometer, described in *The Auk* for April, 1927. We will not repeat the detail, but just say that a tiny thread-like wire in the nest lying across the eggs is connected by cable across the orchard to the machine in the laboratory. Through that machine passes about four feet per day of paper ruled for time and temperature. A pen marks the slightest change of temperature on the paper. As a change occurs, every move of the bird is recorded. It tells at egg-laying time not only the moment each egg is laid but also every visit the bird makes to look about the nest and see if everything is all right. It tells of the increasing number and length of visits during succeeding days, and during incubation it not only tells each time the female leaves the nest and how long she stays off but records the fact if she only turns around and sits down again.

The other recording instrument we called the "Wrenograph," but we hear that we must give it a more scientific name. Like the potentiometer the Wrenograph has a roll of paper ruled for time and about four feet of it to each day, but this does not record temperature. Instead of the thread-like wire or thermocouple, the Wrenograph operates with a double perch that makes electric contact so that the pen moves to the right when the outer perch is touched, and is drawn to the left when the inner perch is touched. This marks on the paper each trip the bird makes into or out of the box, and

equally well it records if a bird touches only one perch and if it lights upon the outer and leaves it without going into the box. With these machines one may see what is going on at different nests without the assistant leaving the office, and often they warn of any unusual happening at any point.

For taking body temperatures the laboratory is well stocked with glass clinical thermometers of special make adapted to work with birds, but it was found that a much more accurate and convenient instrument for reading body temperature was an electric potentiometer and thermocouple. But the story is becoming too long, so I will just refer you to the temperature study by Mr. Kendeigh in the *American Naturalist* for May, 1928, and leave other forms of apparatus for future description.

Another side of the work is what we call "out-field." That means one or more members of the staff go about in what we call the official car, the rear seat loaded with Wren boxes and traps, to visit the neighboring estates for two miles or so about. The neighbors like it and become much interested, and allow us all sorts of liberty with their bird-houses, knowing that we will not harm their birds. This out-field work is for the study of distribution of the Wrens, a wider study of matings, the return of adults or of young birds from year to year, and their movement in the neighborhood. In fact many new questions arise in the study of so large a number of one species.

The extent of this work may be realized when we state that there are some 300 boxes out; that we had this season some 168 attempted broods, 115 successful broods, nearly 900 eggs laid, and 514 nestlings banded. During 1927 there were banded 158 adult Wrens, and in 1928, 37 of these birds, or 24 per cent, returned. Of the young Wrens banded in 1927 there were 428, and only six of them were taken this season, or less than 1¾ per cent. That is one of the problems. What becomes of all the young birds that so very few return to the same region; and it was partly in hope of finding some clue on this question that we organized the out-field work.

This is a hasty view of fourteen years' growth but it shows how crazy a bird-bander may become, and it certainly is the grandest form of sport, with lasting benefits that increase with the years.

MIGRATION-ROUTES OF THE ARCTIC TERN (*STERNA PARADISEA* BRÜNNICH)

BY O. L. AUSTIN, JR.

For a long time the migration routes of the Arctic Tern have been a mystery to man. All we have known concerning the distribution of this species are the breeding-areas, and, to a much lesser extent, the winter range. Even in this knowledge there are evidences that point to the probable course followed by the birds in their journeys between the two localities, but for some unaccountable reason it has never been traced satisfactorily to date. However, data have been gathered this last year that seem to indicate clearly the route followed by at least our eastern North American birds in their travels. These are the recovery in France of an Arctic Tern banded in Labrador and the observations of Captain Iselin of the schooner "Atlantis," as recorded in this paper.

The breeding-range of the Arctic Tern has its center of greatest abundance in Scotland, the islands immediately north and west of there, and the more northerly coasts of the North Sea. Thence it branches out in all directions, becoming almost circumpolar in the Northern Hemisphere, extending in places to within 8° of the pole, but never coming south of the 40th parallel of latitude. To the westward it includes Iceland, Greenland, Baffin Land, Hudson Bay, Labrador, and our coast south to Massachusetts. Eastward it reaches through Lapland, Finland, Estland, northern Russia, the coasts and lower river-courses of Siberia, on through the Behring Sea, south to the Anadyr and Commander Islands, and thence across to Alaska and as far west as Melville Island.

Our knowledge of the winter range of the species is more hazy and indefinite as it lies for the most part in seas that are comparatively unfrequented by man. It is usually given as those waters lying between Brazil and Argentina and West Africa, and south to some undetermined point below the Antarctic Circle. The Pacific migrants seem to winter off the west of South America, and it is possible that the two flights may meet somewhere south of the Horn, but concerning this there are practically no data.

The singular fact that the only records for the species on our Atlantic coast between Massachusetts and Brazil are a half-dozen accidental ones scattered between Long Island and

Georgia, has caused almost no speculation or comment. It has been supposed commonly that the Arctic Terns fly several hundred miles off shore, as do the Golden Plover, migrating directly from here to the Bahamas—this in spite of the fact that there are no records whatsoever for the latter islands, or for any others of the West Indies! The theory has been substantiated somewhat by sight records of flocks flying southward in this supposed path, but I believe the records to be erroneous. It is logical to expect the Common Tern there, and in my experience it is impossible to differentiate between *hirundo* and *paradisæa* when the individuals are on the wing and over fifty feet away.

This route, somewhat paralleling our shores southward, has been postulated by men who believed the birds flew in a straight line, the shortest possible distance from their breeding-grounds here to the eastern coast of South America. They neglected to take into consideration that a straight line on Mercator's projection is not the shortest distance between any two points on the surface of the earth—a mistake made all too frequently by writers on pelagic migration. The shortest possible route from Labrador or Massachusetts to Brazil is along the great circle running between the two places. It would carry the birds away from our coast at almost a right angle, and take them nearer the Azores than Bermuda.

But there are other facts in their distribution pointing to the probability that our North American birds do not parallel our coast at all in their journeys southward. We can safely assume that the present focal-point of density of individuals during the breeding-season was probably the original locus from which the species radiated to occupy the territory it now covers at nesting-time. In other words, the breeding-range of the Arctic Tern has extended itself gradually in all directions from nuclear centers somewhere in northeastern Europe. It is contrary to all reasonable expectation to believe that in establishing the colonies of the Atlantic Coast of North America the birds flew directly from Scotland to Newfoundland. It is far more likely that they came in short stages, as did the Norsemen who followed in their path ages later—first to Iceland, then to Greenland, next to Labrador, and finally on south to their present southern limit at Muskeget Island. The present distribution of the birds along that path indicates this as the probable mode of dispersal, though it must have taken long ages to complete the process.

We know that birds as races have to learn their migration-routes. The Starling, since its introduction into this country,

has taken many years to evolve the short migration it now performs, and the bird has not yet acquired in this route, which is still in the process of development, the regularity and distance of the established old-world course. As a general rule birds do not travel as does the Homing Pigeon, guided solely by an instinct that leads them straight to their objective without previous knowledge of the country. It is assumed that the usual process in most species is to leave a region using the route by which their ancestors entered it, without any regard for short-cuts—witness the right-angle turn the Bobolinks still make between their route along the Mississippi Valley and the wheatfields of the Middle West. So it is not illogical to suppose that our Arctic Terns go back the way they came, and that the Massachusetts breeders go north and east, past Labrador, Greenland, and Iceland before starting south.

In view of the above, it is interesting to note that an American bird has been known to fly eastward across the ocean. The nestling Arctic Tern that I banded in Turnevik Bay, Labrador, on July 22, 1927, and which was picked up near La Rochelle, France, on October 1st, having flown 2500 miles at the tender age of three months, suggests that the Labrador birds follow some such route. This bird was one of five hundred I banded on the same islet that year, and its recovery may be only an accidental record, but with all the other evidence pointing towards such a route, I believe it was on its regular path in spite of there being no other records to substantiate it. There may be other recoveries in the near future, for I had the good fortune to be able to band six hundred of this year's hatch at the same place last July.

Of more importance are the observations of Captain Columbus Iselin. On a voyage of oceanographic exploration for Harvard University in the schooner "Atlantis," he sailed across the Atlantic and back last summer. On his way eastward in July not a single Tern of any description was seen. But on his return he suddenly sailed into an area of sea covered with Arctic Terns on August 26th, on the 51st parallel of latitude and about three hundred seventy-five miles west of Ireland. He shot some to make sure of his observations, and brought a specimen back to prove his identification. He continued seeing the birds for the next four days, always in small bunches, while the schooner traveled five hundred miles further westward along the same parallel. Here, seven hundred fifty miles east of Newfoundland, the birds ceased as suddenly as they began. His field notes for August 29th read:—"Shot Jaeger and Tern. For the past three days both

species have been numerous, especially the latter. The Terns fly high, and are usually in groups or pairs. They seem bound in no particular direction, and are not in much of a hurry."

The "Atlantis" evidently sailed across the migration-route of the Arctic Terns, and at a time when the first of the North American, Greenland, and Iceland birds were on their way south. The Captain's last sentence typifies their lackadaisical method of traveling. They never seem to be covering as much ground as they really are, for they must needs stop and feed *en route*. It is evident from the dates of their arrivals and departures that some of them must reach the winter quarters before the tardy ones even leave the breeding-grounds. They must spread at one time over an area some ten thousand miles long and from fifty to seven hundred miles in breadth. We know that at one point this thoroughfare is five hundred miles wide, lying four hundred miles off the Irish coast and straight north of the Azores.

The birds from northern Europe, Spitzbergen, Jan Mayen Land, Franz Josef Land, and the western part of Siberia must swing westward first and then southward, joining the American birds somewhere southwest of Ireland. It is unlikely that either prevailing winds or ocean currents affect the course of the flight directly, though violent storms undoubtedly are responsible for accidental records in out-of-the way places.

The origin of the migration that goes yearly along the eastern side of the Pacific past California and the west coast of South America is a very puzzling question. I judge the birds comprising this flight to be the ones that breed in the areas from the Taimyr Peninsula in Siberia eastward to Melville Island in North America. It is significant that this artery sticks to the eastern side of the ocean, in which it parallels that of the Atlantic. There are but two accidental records for Hawaii, and no records at all for the Pacific west of that, Australia, New Zealand, or the Indian Ocean.

In the collections of the Museum of Comparative Zoölogy there are excellent series of the Arctic Tern from both oceans. I have compared these very carefully, but I can find no appreciable difference of even subspecific value between the birds, no matter whence they come, in color, structure, or size. They are undoubtably one and the same race.

Our knowledge of the winter range of the species is still too vague and indefinite. It is highly probable that when more is understood of the doings of the birds in the Southern Hemisphere, we may gain some clue to the nature of the Pacific migrants and their relation to those of the Atlantic. But

there is comparatively little research being carried on to-day in either the Antarctic or the Arctic. Undoubtedly banding will be a very large factor in helping decide the matter.

NOTES ON BANDING TERNS AT CHATHAM, MASSACHUSETTS, FOR 1928

BY CHARLES B. FLOYD

THE fifth consecutive summer's work with the Common and Roseate Terns (*Sterna hirundo* and *dougalli*) on Tern Island, Chatham, Massachusetts, was begun on June 30, 1928. The purposes of this season's activities were:

1. To band a minimum of five thousand immature birds.
2. To determine by trapping whether or not any Terns banded during previous years return to the island to nest.
3. To secure as many parasites as possible from adults, young, and nests.
4. To make a series of blood smears for the Department of Tropical Medicine, Harvard University Medical School, from adult and young of both species.

The Terns arrived in Chatham, as in former years, early in May, and mating and incubating went along in due time despite the fact that the rainfall during June was nearly twice the normal amount. Warden Patterson tramped over the island on June 11th and estimated that the birds were present in their usual numbers and found nests with eggs everywhere in the grass and open sand. He noted that the birds were flying long distances for food, which was, apparently, difficult to obtain at that time. Upon visiting the island July 1st we found many young in all stages of growth, and literally hundreds were ready for banding. The Common Terns appeared more advanced than the Roseates. It was necessary to work fast in order to band the quota set, and we developed a most efficient method of procedure. All bands were opened the day previous to the one on which they were to be used, and the numbers recorded. They were then carried loose in side pockets. The young Tern was lifted from the ground with the left hand, head toward the body, and turned feet up as it was raised. The thumb was then pressed behind the left leg at the joint, holding it upright and firm. This permitted the bander to place the band around the tarsus with the right

hand and close it, whereupon the young Tern was placed in the grass from which it was taken. All unnecessary motion was eliminated by this method of handling, and it was not found practical or desirable to shift the bird from hand to hand by the head. Splendid assistance was given by two members of the Northeastern Bird-Banding Association, Richard B. Harding and Major William T. McMillan.

BANDING

The banding was done on the following dates:

IMMATURE

	Common Terns	*Roseate Terns*
July 1	500	15
" 2	530	85
" 3	470	49
" 5	500	99
" 6	500	20
" 7	900	60
" 9	601	124
" 10	728	48
" 11	201	..
" 12	87	..
" 13	114	..
Total	5131	Total 500

ADULTS

	Common Terns		*Roseate Terns*
July 2	16	Two returns	..
" 3	79	" "	2
" 9	20		..
" 10	12		..
" 11	39	One return	..
Totals	161	Five	2

Total of all adult and immature banded—5794.

This total represents the greatest number of Terns banded in any one season in any one colony.

RETURNS

It will be noted from the figures given of banded birds that five Common Terns were taken in traps that returned to nest in the same colony where they were hatched. We have never seen a Tern, alive or dead, wearing a band when at the island

in previous years until this visit. During 1927 we found a large number of adults that were killed at night, probably by an owl, but all were without bands. Also there was ample opportunity to observe many of the old birds with field-glasses when they sat on the open sand; but again none wore bands. This seemed strange indeed for twelve thousand on this island have had the identifying ring attached during the past four years. The first day's trapping resulted in our securing two Common Terns wearing numbers 382270 and 384122, and my records show that the bands were affixed on July 4th and 7th, 1925, when they were fledglings. The second day two more were captured, numbers 382692 and 383959, and they proved to be young of the same year, banded on July 6th and 7th. The last return was on July 11th, number 403143, and was a 1926 bird, having been banded on July 12th of that year. None was of 1927 banding, and in so far as the records go they bear out the theory that Common Terns do not breed the second year. Additional evidence is given by the fact that two immature Common Terns, banded at Chatham in July, 1926, were killed in the British West Indies in May, 1927, and two others of that year's banding were killed in the same place in June, 1927. Mr. John A. Gillespie also reports a recovery of a Common Tern banded by him in New Jersey on August 23, 1925, which was shot in the West Indies, on May 16, 1926.[1] The bands were in excellent condition, the numbers being very distinct, showing no harm from salt water, and the legs of the Terns did not show any marks suggestive of band-rubbing. There can be no doubt from the above records that the young of the Common Tern tend to return to nest in the same locality in which they were hatched. We hope to amplify these records next year by devoting a greater time to trapping.

Another interesting episode occurred. A trap was set over a nest containing eggs and in a short time an unbanded Common Tern was caught when it went to its nest under the trap to incubate. The bird was banded and released, and the trap was reset. Another adult without a band was taken in a few moments that also went to the nest to incubate. This occurred with a second pair, and shows that incubating is participated in by both sexes.

[1] *Bull. Northeastern Bird-Banding Association*, Oct., 1926, p. 90.

PARASITES

We did not discover any parasites on the Terns, either adult or juvenile. This is not surprising in the latter case, since almost no nest is made and the young often leave the nest within a few hours after they are hatched. Two nests that had more than the usual amount of nest-material were taken for further examination. These were placed in white cotton bags twelve inches across the top and eighteen inches deep, with the top carefully folded over and securely tied. The method was to keep the bags a week or ten days to permit any parasites such as fleas or flies to hatch out, and then to secure these by carefully rolling back the top and seizing the insect before it escapes. At this writing none has been found. Little is known at the present time about the parasites to which the birds are host.

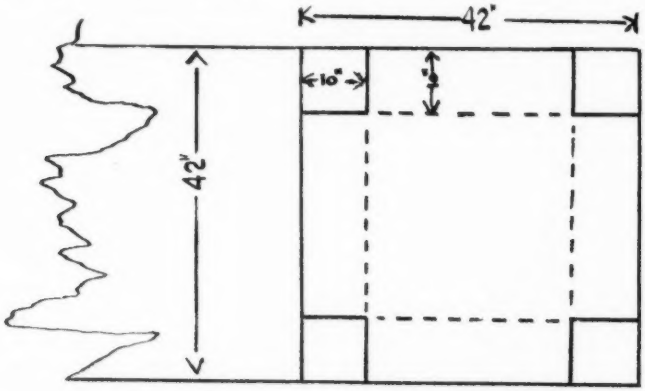
The adult Terns were in splendid condition and surprisingly clean. Perhaps their constant diving into the water many times a day is the explanation.

BLOOD SMEARS

The Department of Tropical Medicine of Harvard University Medical School is interested in obtaining further knowledge of the diseases of birds caused by blood protozoa and malarial infection. Dr. Clyde G. Huff writes: "From the zoölogical viewpoint, malarial infection in birds presents some interesting and difficult problems. These concern the distribution of the species of parasites geographically and the various genera and species of birds, the question of the vectors of many of the Hæmoproteus infections, and the matter of the pathogenicity of the infections for various species." For research work it is necessary to have blood smears taken from adult and juvenile birds. These are made by pricking the leg with a needle and squeezing a minute drop of blood to the surface, which is then spread on one end of a glass slide 3″ x 1″. The smears are dried, care being taken to keep dust and dirt away, and the proper data are then written upon a gummed label stuck to the opposite end of the slide. No difficulty was experienced in obtaining the drop of blood and the Terns were not inconvenienced in any way. One adult bird that came particularly under our notice was trapped, banded, examined for parasites, had a blood smear taken, and was released. Within a few minutes it returned to its nest and was retaken.

DROP TRAPS

The traps used in connection with our work were fashioned from ordinary large-mesh chicken-wire cut to finish twenty-two inches square and ten inches high. Mr. Harding's ideas were followed in the construction of the very simple traps which were made thus: The roll of wire used was laid out to weather several weeks prior to its being used in order that the new appearance might be entirely done away with and the traps thus rendered less conspicuous. When ready to use, the wire



CUT ON BLACK LINES
FOLD ON DOTTED LINES

METHOD OF MAKING TERN DROP TRAPS

was unrolled and pieces forty-two inches long were severed and flattened. At each corner a square ten inches on a side was cut out. The edges (see accompanying figure) were then folded into line with cuts and twisted together or laced with copper wire. It was not necessary to fashion a door or use a taking-cage, for the bander could easily slip his hand under the trap, which rested lightly on the sand, and remove the bird. The large mesh was selected so that the Terns, if they attempted to escape, could poke their heads through and not

bruise themselves as would be the case with a smaller-size mesh. The traps were placed over nests situated in the open sand that contained either eggs or young birds, and operated by a pull-string. One side rested on the ground, and the other, when the trap was set, was raised by a stake twelve inches long. A string extended from the stake to the place where the operator sat, and the trap was dropped by a quick or steady pull on the string. A battery of six traps to each operator was found to be sufficient, and the strings running from the trip-sticks extended about thirty to forty feet to a common center. Here the operator sat in full view of the birds, with bands and note-book, and pulled the strings when the obliging Terns went underneath the trap to incubate the eggs or to brood the young. The lack of fear shown by the birds was astonishing. It often happened that when one of a pair went under the trap to the nest its mate came soon after, sometimes with food, and sat on the sand beside the brooding bird as though to keep it company. Thus both were taken at the same time. The drop of the trap oftentimes did not disturb them, and the captive bird continued to brood apparently without knowing that it was under restraint.

When operating the traps we had a splendid opportunity to study the adults at close range. They came readily enough when we sat quietly, and alighted on the sand before us, uttering a sharp single note, repeated constantly, and accompanied by a nervous twitching of the wings, which were held slightly out from the body The brooding birds went on their nests while others strutted back and forth, fought with new arrivals, or merely stared suspiciously at us, all the while uttering their protesting cries. We observed many of the interesting happenings in a Tern colony, such as the feeding of one adult by another, probably its mate, the courtship displays, and the care of the young.

When the traps were sprung, the captured birds were carefully removed, banded, and released, and the traps were then set in a new location in order that our work might not be harmful to eggs or young. In two instances we trapped one of a pair of Common Terns, banded and released it. The trap was again set over the same nest, and soon a second bird, bandless, walked under the trap and settled on the eggs. It, too, was secured and banded. The actions of the Terns when they passed under the trap were interesting. After attempting to enter from the rear, where one side of the trap rested on the ground, the bird came slowly around to the front seeking a way under. Soon, with bowed head and mincing

steps, it passed slowly beneath the wire and settled on the nest. Sometimes the birds sat on the sand beside the trap, apparently unable to determine what was best to do, but they finally discovered the way to their nests. We spent an entire day in this interesting spot on the island, operating the traps and observing the Terns, without a dull moment. The largest number trapped during any one day was seventy-nine.

LIGHT

In order to observe the reaction of the old and young Terns to light at night, we sailed to the island one evening at dusk. Heavy fog was creeping in from the ocean, obscuring the stars and making the night exceedingly black. Major McMillan was dressed in white, and Dr. John B. May and the writer wore dark clothes that we might be as inconspicuous as possible. Major McMillan's figure showed plainly against the dark background of green, but blended well against the sand. On the other hand, the dark costumes were indistinguishable. We lay on the beach until complete darkness set in, while hundreds of Terns passed screaming over our heads or alighted on the sand, head to the wind, not far from us. As their numbers increased, the long line of birds moved nearer and hundreds sat motionless, gazing suspiciously in our direction.

The young Terns were strongly attracted by the lights we used, which were ordinary electric two-battery hand flashes. When pointed down on the beach, the Terns came like large moths and literally flitted into the circle of light, sitting motionless to stare at the strange sight, or moving slowly forward in a bewildered way until they actually bumped our legs. Others flew to the lights which we held in our hands and struck our heads or bodies in a blinded manner. We found also that it was possible to walk up the beach, or over the island, using the light, and to secure as many young as we desired, but, while many can be thus captured, it is not a practical or satisfactory way to band large numbers.

As a whole the adult Terns were frightened by the light. We are confident it was the light and not ourselves, for we were invisible in the dark behind the flash. When we walked toward a point on the beach where the old birds were resting, and focussed the light upon them, they immediately took wing with loud cries. On the other hand, when we came to birds on the nest it was possible to blind a single individual with the light and secure it, but others on nearby nests im-

mediately disappeared. In doing this, we gained the impression that the bird was blinded but not attracted by the light, and it may have been a desire to keep the eggs or young covered that kept the bird from flying, for the same thing could not be done with adults resting on the beach. A more powerful light and one less diffused would have a more blinding effect and perhaps produce more satisfactory results.

In the air the Terns, old and young, were not attracted, but decidedly alarmed. The lights were set in the sand pointing upward and so arranged that they merged into one strong vertical ray. This proved to be no attraction, and when we trained the lights on flying birds they made off rapidly.

Our conclusion was that young Terns are attracted by a strong light, but the old birds are not and in reality are frightened. The adults can be secured on the nest, but not on the beach where they pass the night. Curiosity or fascination for the light is exhibited by the young alone, but taking them in this manner is not practical for banding.

The completion of this season's work brings the number of Terns banded on this island under the writer's direction to over seventeen thousand. As I have said, more time will be devoted next year to work with the adults through trapping.

Auburndale, Massachusetts.

HOW LONG DO PURPLE FINCHES LIVE?

BY M. J. MAGEE

THE following statistical study of my Purple Finch banding records at Sault Ste. Marie, Michigan, made during the spring, summer, and autumn, should be considered as a preliminary report, subject to revision as more data are obtained. A few more years of banding should give us fairly definite information, if all banders handling any number of Purple Finches will coöperate.

I do not believe the average life of Purple Finches, eliminating the mortality among the young birds before they are able to fly, is much, if any, over two years.

I have had this species feeding at my station every year since 1916 and have been banding them actively since 1922. All the birds were trapped within seventy-five feet of my dining-room window.

My banding records for seven years follow, showing number of Purple Finches banded, by years:

1922	254	1926	1084
1923	1092	1927	1441
1924	1043	1928	819 to June 30
1925	1510		

Statistical tables of Purple Finches banded and returning by years

TABLE 1

	Number Banded	*Returns by years*					1928
		1923	1924	1925	1926	1927	to June 30
1922	254	33	19	5	3	2	1
1923	1092	..	71	41	22	13	1
1924	1043	..	..	87	44	26	8
1925	1510	..	..	..	122	62	27
1926	1084	..	..	..	..	122	28
1927	1441	..	..	..	..	..	89

TABLE 2

Number of individual Purple Finches returned to June 30, 1928

Banded in 1922	40	have returned	
1923	103	"	"
1924	112	"	"
1925	147	"	"
1926	130	"	"
1927	89	"	"
Total	621		

TABLE 3

	Back 1st year after banding	*Back 2d year after banding, but not 1st*	*Back 3d year after banding, but not 1st or 2d*	*Back 4th year after banding, but not 1st, 2d, or 3d*
Banded 1922	33	7		
1923	71	19	8	5
1924	87	22	3	
1925	122	22	3	
1926	122	8		
1927	89			

Average age of male and female returning birds

TABLE 4

	Males	*Females*	*Average age*
1922	1–8 years old	1–6 years old	Males 3 years, 2 mos.
	1–5 " "	1–4 " "	
	4–4 " "	5–3 " "	Females 2 years, 4 mos.
	9–3 " "	8–2 " "	
	5–2 " "	4–1 " "	Average for all 2 years, 9 mos.
	1–1 " "		

	Males	*Females*	*Average age*
1923	1–7 years old	5–5 years old	Males 3 years, 6 mos.
	1–6 " "	7–4 " "	
	6–5 " "	6–3 " "	Females 2 years, 6 mos.
	13–4 " "	10–2 " "	
	30–3 " "	14–1 " "	Average for all 3 years.
	10–2 " "		

	Males	*Females*	*Average age*
1924	2–6 years old	5–4 years old	Males 3 years
	4–5 " "	15–3 " "	
	12–4 " "	14–2 " "	Females 2 years
	21–3 " "	17–1 " "	
	19–2 " "		Average for all 2 years, 6 mos.
	3–1 " "		

TABLE 5

Purple Finch returns as to sex

Year banded	*In adult male plumage when banded*	*Banded as young male or female. In adult male plumage on last return*	*Banded as young male or female. No change in plumage at any return*	*Totals*
1922	11	10	19	40
1923	33	28	42	103
1924	18	43	51	112
1925	28	68	51	147
Totals	90	149	163	402

TABLE 6

Returns of older males and older females this year

	Adult males	*Adult females*
Banded 1922	1	0
" 1923	1	0
" 1924	5	3
" 1925	19	8
" 1926	16	11
Totals	42	22

Table No. 1 gives the returns by years, and they total 826, but as many birds return more than one year the number of individual birds is considerably less, as will be seen by table No. 2.

My records (see Table No. 3) show that very few birds return that were not back either the first or second year after banding.

Table No. 3 shows but nineteen back the third and fourth years after banding, fourteen the third year, and five the fourth year.

For ages of returns, I have compiled my data for 1922, 1923,

and 1924, which are given under Table No. 4. The data for 1925, 1926, and 1927 will best be considered at a later date when more returns will be in.

Table No. 4 is reasonably accurate, but not exact. The age of an adult bird when banded cannot be told; we only know it cannot be less than the number of years stated. The age of males is more accurately known than that of females for two reasons: An adult male banded in the spring must be at least nearly two years old, while an adult female banded in the spring may be less than one year old. Then young of the year and adult females trapped late in the fall on returning the following spring must be put down as one year old, and these are all listed under "Females," while some of the young are of course males that do not repeat in the fall or return in some following year. Possibly the average age for males should be reduced a little, and the average age for females increased slightly. Thus far my returns seem to indicate a longer life for the males than for the females.

In Table No. 5 the returns for the years 1926 and 1927 have not been used as there should be some more returns this year and next.

The small number for 1922 does not indicate a less number of birds here, but that the Biological Survey was unable to supply bands on two occasions. From the 4th of May to the latter part of June and for a couple of weeks in the fall, I could do no banding. This year's report is only to June 30th and is about the same as other years to that date. While I do not believe that every bird that does not return is dead, nor that I get all that return, I do believe that if a great many of them were not dead my number of returns would be very much greater.

From year to year I see very little change in the number of Purple Finches here, which would indicate that the mortality from year to year just about equalled the reproduction. If the Purple Finches lived to a considerable age, it would not require a very great number of young each year to keep the average up, but my data on returns (see Table No. 1) show a rapid decline in number of birds returning after the first year. So to keep the average up from year to year the number of young raised must be very large.

Purple Finches are a good bit like chickens: put out food and in they come from all over the neighborhood. Other species do not act this way with me: there may be one hundred or more Whitethroats or Juncos scattered all over the hill where I live, but only a few at a time appear in around the

traps. It is not unusual for forty or more Purple Finches to be under a single drop trap. In fact, I frequently shake the string to frighten some out before dropping the trap. I do not like to take so many at one time. As I look each bird over, usually making some notes on plumage on each individual card, it would keep some of them in the traps entirely too long. From this habit of collecting together to feed, I am pretty sure that most Finches that return come to my station to feed at some time during each season.

I further believe the birds return quite locally to the same spot; banded birds are almost always seen among the first arrivals, and this year and last the first trapped Purple Finch had a band on.

Last year Dr. K. Christofferson, who has been associated with me in bird work for many years, was placed in charge of the Munuscong State Park and is banding there. His trapping station in the park is just about twenty miles south and not over five miles east of my station.

Last year he banded sixteen Purple Finches; seven of them returned this year to his station and another was trapped at my station. This year, to June 30th, he has banded one hundred and two, and trapped only one of mine, banded in May, 1926.

As his station is almost due south of mine, it would seem as though he should pick up a good many of my birds if they did not return very locally. A few more years should give us pretty conclusive data on this point. There being so many trapping stations scattered throughout New England, it appears to me banders in that area have a much better opportunity to settle this point than we have with only two stations operating.

As to the age of returns (see Table No. 4) I can be more definite, although on checking up for age, males in crimson plumage and adult females can only be put down as not less than so old.

A check-up again in a couple of years will be made to test the accuracy of the above analysis.

July 30, 1928

THE PARTIAL HISTORY OF A PAIR OF NESTING JUNCOS

BY WENDELL P. SMITH

THE Slate-colored Junco (*Junco h. hyemalis*), while more numerous as a spring and fall migrant, is a fairly common summer resident at Wells River. Censuses of three different tracts, comprising in all 118 acres and containing much territory suitable for the nesting of this species, revealed seven nesting pairs in 1928. The pair under observation nested about five hundred feet from my banding station. The nest was located on the edge of a narrow strip of woodland fringing a steep hillside. It was placed under a bunch of old leaves, which overarched and protected it from the rain. The nest itself was a depression in the leaf-mould lined with pine-needles and dried grass and set so deep that the top was just even with the ground. The nest was discovered on May 25th by flushing the female, and it contained four partially incubated eggs. It was well located for observation, a trodden cow-path passing within about two feet, so that the dangers incident to a new path leading directly to the nest were avoided.

On June 5th, three of the eggs hatched. The fourth never hatched and remained in the nest after the young left. The natal down of the young corresponded to the "dark gull gray" of Ridgway's Color Standards and Color Nomenclature. Little change took place during the next twenty four hours but the pterylæ showed as a darkening of the skin, and more notice was taken of what was going on outside the nest. On the 7th, the dark area was well defined on the capital, humeral, spinal, and femoral tracts: of the ventral but a trace could be seen on the sides of the breast just in front of wings, while primaries and secondaries showed well-defined follicles under the skin. Crural and caudal tracts could not be seen. The natal down appeared longer and very much lighter. On the 8th, the primaries were half an inch in length, while follicles of the alar, spinal, femoral, and ventral tracts were about one eighth of an inch long. Natal down had become "pale gull gray." Eyes could be opened almost wide but were kept closed for greater part of the time. The follicles were slate gray. On the 9th, the bill, which had been yellow, was noticeably darker except the tomia and angle. The feet were also darker. The primaries had lengthened one quarter of an inch and other tracts showed corresponding increase. The

eyes could be opened wide and the birds uttered weak, squealing notes when touched. On the 10th, primaries and secondaries had gained another quarter inch in length and the vanes were bursting from their sheaths. Similar development was apparent in ventral, spinal, femoral, and to a lesser extent, in the crural tracts. Capital and caudal tracts had not reached this stage. The eyes were now kept open, and the edges of the bill were darkening except at angle. On the 11th the vanes showed still further development in the tracts already mentioned, while those of the caudal were beginning to show slightly. On the 12th the young began to present quite a junco-like appearance. The abdomen was now the only area not covered by the sprouting feathers. At this time the vanes had not emerged from their sheaths in the circumocular region. On the 11th bands bearing the numbers B37351–53 were affixed. At that time we noted that B37351 was larger and browner than its companions. As we had some difficulty in making them remain in the nest on the 11th, no attempt was made to take them from the nest for examination after that date. On the 14th the three left the nest. B37351 was the first, leaving at 6.15 A.M. The nest was vacant at 8.45. We saw the departure of B37351. After sitting on the edge of the mest for awhile it mustered courage to start. Fluttering along the ground for a few feet, it launched into the air and flew rather heavily to a bush, where it alighted. In attempting to reach a second shrub it miscalculated and nearly overshot the mark, but a few seconds of rapid fanning of the wings enabled it to regain its balance and it was then able to alight.

This individual was successful in avoiding the dangers of its new environment, but the other two, we fear, were not, as they were never seen after their first flight from the nest. Their fate is problematical, but the most likely explanation was that they fell prey to a Cooper's Hawk, which was occasionally seen in the vicinity and which disposed of a male Purple Finch only some fifteen feet from the Junco's nest.

The first night was spent about two hundred feet from the nest in some small pines. At 6.15 A.M. on the following day B37351 had reached a point some four hundred feet away. On the 17th the distance had increased to five hundred feet, but on the 18th it returned to within one hundred and twenty-five feet of its former home.

The tail, which was very short at the time it left the nest, appeared full-grown by the 17th, and the white outer tail-feathers showed conspicuously. Flying had improved, but

lack of skill was still shown, especially in the management of the tail. Opportunity for observation ended on the 18th, as we were away for a fortnight. On July 4th, a young banded Junco, undoubtedly B37351 was seen alone some five hundred feet from the nest and an equal distance from the place where last seen.

On July 3rd the second nest was discovered some four hundred and fifty feet from the first nest. It was placed at the base of a small pine and was somewhat protected from rain by the trunk and thick branches. Material and construction were similar to that of the former nest, and it contained four eggs. A cow-path passed conveniently near also, and some time was spent watching the behavior of the birds during the period of incubation.

The female displayed some regularity in leaving the nest in search of food. On three days she was seen to leave between 8.30 and 9.00 A.M. Indeed, she was almost clock-like in her schedule. On the 10th of July she left at 8.30 A.M., returning at 8.50. Leaving on the 14th at 8.42, she returned at 8.53, and on the 17th departure and return took place at 8.43 and 8.49 respectively. At only one other hour of the day did we find her off the nest, but as we found her facing different directions, she probably left at other times.

Her flights in search of food were short, for she usually fed on the ground at distances varying from thirty to one hundred and fifty feet, but once, in company with the male she went some three hundred feet, the maximum distance probably.

The male was not much in evidence during the incubation period, not appearing when the female scolded intruders unless the annoyance was long-continued, when he appeared and joined with his mate in the effort to drive away the disturber. Occasionally he was seen in the vicinity of the nest when danger did not threaten.

No singing was heard after the discovery of the first nest until the 18th of June, four days after the young left the nest. On July 6th a male Junco was heard singing near the second nest, but as the singer was in a spruce having a thick growth of branches, we were unable to determine presence or absence of a band. Singing continued until the 15th.

On the 18th we discovered that disaster had overtaken the nest. The eggs were gone, but the nest was intact and no bits of shell could be seen. This undisturbed condition suggested the possibility that a snake had been the culprit; a theory that was strengthened a few days later when we saw

the male trying to frighten away a rather large striped snake (*Eutainia sirtalis*).

On the 19th the male was heard singing again near the nest, and the female scolding. On the 20th the male was singing, this time from a tree on the opposite side of the narrow tract of woods. The female was flitting about from tree to tree of the group of small evergreens, nervously exposing her outer tailfeathers and uttering the soft lisping note frequently heard during migration from members of a group. Owing to the dense foliage, the exact nature of her activities could not be determined, but we strongly suspected further nest-building. It was not until July 28th, after careful search several times during the intervening period, that the third nest, containing three eggs, was discovered. The female had become so accustomed to our visits that she no longer found them very disturbing, and it was only when we were almost upon the nest that she would leave. This nest was built at the base of a small pine, the crooked trunk furnishing some protection from rain. Material and construction resembled that of the other nests. This nest also seemed to be ill-fated, for on August 6th it was empty, the eggs having disappeared during the preceding night. As part of the nest-lining had been torn out and left a foot or so away, the marauder was evidently a mammal this time. Cats have been rare visitors to the locality, and it seems likely that skunk or squirrel wrought the destruction. No trace of the parent birds could be seen, and many subsequent visits have failed to find them, so it seems evident that they abandoned the territory.

There remains to be described the parents' behavior toward the young, of which we hoped to learn more with the later broods, but of which we learned something with the first. With the hatching of the eggs, the male became more attentive, warning of the approach of danger and helping to feed the young. On June 7th we watched the nest from 10.45 to 11.45 A.M., and during that time ten trips with food were made, six of these by the female and four by the male. The female brooded the young from five to ten minutes after five visits, and the male after one. In addition to the four visits when the young were fed, the male came five times to the edge of nest, but, finding the female with the young, flew away, and only once did he return immediately, whereupon the female vacated. The female came once with food while the male was at the nest, but waited until he left, which he did almost immediately. The periods of time between visits were unequal. Food could be secured very quickly and a limited

territory seemed to provide it. The open pasture to the north and the deciduous shrubbery to the east were scarcely entered, but to the south and west, where pines and hemlocks predominated, the food-supply seemed to be largely obtained. Part of the area had been burned over by a ground fire early in the spring, and that, especially, was favored. Probably the greater part of the supply was obtained at a distance varying from thirty to one hundred and fifty feet from the nest, in the tract covered by coniferous growth. The maximum distance at which we saw them was three hundred feet away, and that was but once.

The parents' day was a long one. On June 7th the female entered the nest for the night at 7.40 P.M., Eastern Standard Time, and on June 13th, the first activity began at 3.47 A.M. The nest was kept under observation from 3.22, and no bird was seen to leave the nest nor did the first call-note come from that vicinity, but from shrubbery several feet away. At 3.47 the female came to the nest. We wondered whether the female spent the night away from the nest, perhaps to accustom the young to being alone in preparation for the approaching departure.

It was while the parents were caring for the young in the nest that their identity was discovered. We observed soon after the nest's discovery that both parent birds were wearing bands. A sparrow-trap placed near the nest caught both, and the male was found to be wearing A7999, affixed April 24, 1928, while the female carried A87460, attached on May 10, 1928. Both birds repeated several times, the male until May 15th and the female until May 21st. The male Junco, A7999, was one of sixteen banded during the period of April 24–30. Except for one or two pairs which have nested in the locality where A7999 did, Juncos appear at my station only during migration, so I think it safe to say, that A7999 received its band at approximately the time of its arrival. Except for A7999 and A87460 the species disappeared from my station on May 3rd.

There are many gaps in the record, but in future seasons we hope at least to fill in some of them.

Wells River, Vermont
Sept. 17, 1928

THE AGE OF BANDED BIRDS—II

BY JOHN T. NICHOLS

SINCE the publication of a "Tentative List of Banded Birds and Ages" in the July, 1927 number of the *Bulletin* (Northeastern Bird-Banding Association, III (3), pp. 50, 51), "Returns from Banded Birds 1923 to 1926" has been issued by the United States Department of Agriculture (Lincoln, 1927, Tech. Bull. No. 32). It will be a convenience to tabulate here a number of additions from this source to our first tentative list of recorded longevity. There are also included occasional items from elsewhere, though the writer has not had leisure to make the thorough search of the literature which would be desirable. As in the earlier list, an initial letter will serve as an index to the source of each record as follows:

A.—*Auk*, 1928, XLV, p. 187.
B.—B. S. Bowdish, unpublished records.
G.—J. A. Gillespie, unpublished records.
L.—Lincoln, 1927; Returns from Banded Birds, 1923–1926, U. S. Dept. Agr. Tech. Bull. No. 32.
N[3].—*Bull.*, Northeastern B. B. Assn., III, p. 94.
N[4].—*Bull.*, Northeastern B. B. Assn., IV, pp. 28, 50–51, 58, 69, 70.
W.—C. L. Whittle, unpublished records and correspondence.

Banded bird	*Date of banding*	*Last record*	*Age*
N[4].—Pied-billed Grebe 210964.	May 31, 1923 (adult)	June 16, 1926	4 years
N[4].—Puffin 210439.	July 24, 1923 (adult)	July 24, 1927	5 "
N[4].—Common Murre 204665	July 24, 1923 (adult)	Aug. 2, 1926	4 "
N[4].—Mallard. Jack Miner's band.	1917	1927	10 "
N[4].—Black Duck. Jack Miner's band.	Fall of 1917	Dec. 9, 1927	10 "
L.—Green-winged Teal 22286.	Mar. 18, 1918	Nov. 7, 1924	7 "
L.—Blue-winged Teal 504235.	Nov. 28, 1922	Nov. 4, 1926	4 "
L.—Pintail 519.	Sept. 24, 1914	Oct. 16, 1926	12 "
L.—Greater Scaup 228762	Feb. 8, 1923	Nov. 28, 1926	4 "
L.—Greater Scaup 204281.	Mar. 10, 1923	Dec. 25, 1926	4 "
L.—Black-crowned Night Heron 25081.	June 1, 1917	May 16, 1924	7 "
L.—Goshawk 202406.	Aug. 4, 1922	April 26, 1926	4 "
L.—Screech Owl 35682.	Oct. 27, 1915	July 11, 1923	8 "
W.—Downy Woodpecker 62904.	Nov. 18, 1923	Dec. 31, 1927	4 "
L.—Flicker 52054.	June 21, 1918	July 27, 1925	7 "

G.—Crested Flycatcher 248735.	Noted nesting 1923, banded 1925	May 11, 1927	5	"
L.—Cowbird 66042.	Mar. 11, 1923	Jan. 20, 1926	4	"
N[4].—Evening Grosbeak 110644.	April 7, 1924	Mar. 18, 1928	5	"
B.—Purple Finch 67518.	Feb. 6, 1923	June 14, 1928	6	"
W.—Goldfinch 84110.	Feb. 3, 1924	Mar. 28, 1928	5	"
W.—Vesper Sparrow 66835.	May 15, 1923 (adult)	April 28, 1928	6	"
L.—Golden-crowned Sparrow 6644.	Feb. 1, 1922	Jan. 24, 1925	4	"
N[4].—Tree Sparrow 64700.	Mar. 30, 1923	Mar. 1928	6	"
B.—Junco 50021.	Feb. 27, 1921	Jan. 28, 1928	8	"
G.—Song Sparrow 65185.	April 18, 1923	Mar. 9, 1928	6	"
N.[3]—Towhee 67777.	June 9, 1923 (adult)	June 13, 1927	5	"
L.—Calif. Towhee 54074.	Aug. 16, 1920	April 5, 1925	5	"
L.—Calif. Towhee 328361.	Aug. 16, 1920	April 5, 1925	5	"
L.—Cardinal 242473.	Mar. 28, 1921	May 1, 1926	5	"
N[4].—Purple Martin 55422.	May 27, 1922	Feb. 27, 1928	6	"
L.—Mockingbird 52301.	Feb. 21, 1921	Mar. 31, 1924	4	"
L. Catbird 55007.	June 14, 1921	May 23, 1926	5	"
A.—House Wren 45303.	June 17, 1919 (adult)	June 6, 1922	4	"

To summarize the figures in this and the preceding (1927) tentative lists, we now have:

12 *years*—for Pintail.

10 *years*—for Mallard, Black Duck.

9 *years*—for Canada Goose.

8 *years*—for Screech Owl, Chimney Swift, American Crow, Junco, Brown Trasher.

7 *years*—for Green-winged Teal, Snowy Egret, Black-crowned Night Heron, Flicker, Chickadee.

6 *years*—for White-faced Glossy Ibis, Blue Jay, Purple Finch, Vesper Sparrow, White-throated Sparrow, Tree Sparrow, Song Sparrow, Purple Martin, Brewster's Warbler.

5 *years*—for Puffin, Herring Gull, Red-bellied Woodpecker, Crested Flycatcher, Evening Grosbeak, Goldfinch, Chipping Sparrow, Towhee, California Towhee, Cardinal, Rose-breasted Grosbeak, Myrtle Warbler, Hooded Warbler, Catbird, White-breasted Nuthatch, Robin.

4 *years*—for Pied-billed Grebe, Common Murre, Common Tern, Blue-winged Teal, Greater Scaup, Goshawk, Downy Woodpecker, Cowbird, Purple Grackle, Golden-crowned Sparrow, Mockingbird, House Wren, Hermit Thrush.

SECOND LIST OF MIGRATORY SPECIES WHICH RETURN TO THEIR FORMER NESTING AREAS

BY CHARLES B. FLOYD

In the October, 1926, number of the *Bulletin* of the Northeastern Bird-Banding Association, pp. 85 and 86, Charles L. Whittle published a list of thirty-six species of migratory birds that commonly breed in the territory covered by the activities of the Northeastern Association that have been taken as returns on or near the place they were born or on or near their former nesting places. Later, two species were stricken from this list, namely the Ring-billed Gull and Common Cormorant.

It is necessary to define the word "nesting-place" as used here. In general, it means the immediate area of nesting. It is generally recognized that many birds have well-defined breeding areas and that the number of species nesting in a restricted territory is limited.[1] If, therefore, a Catbird returns to rear its young in the approximate area in which it previously nested, or in which it was hatched, using the same general territory to range and feed over that it did in a previous year or years, it is considered as returning to its former nesting-place. A Barn Swallow making its home under the same or a nearby roof; a Bank Swallow using the same bank or an adjacent one; a Chimney Swift taken in the same chimney or a neighboring flue, are classed as returning to the same nesting-place or breeding area. Permanent residents are, of course, excluded, as are species that have a greatly restricted migration, for example, the Chickadee, White-breasted Nuthatch, Downy Woodpecker, and Starling, unless it can be shown that birds of these species have actually migrated and returned. It is confessedly difficult to define in advance what shall be considered a return in all cases under consideration, but where doubt exists an explanatory note will be added.

It is hoped to gather information of this sort regarding every migratory species or race within the limits of the four regional associations and to publish it from time to time. This information will appear in tabulated form for ready reference (and will be elaborated by additional notes) under the following heads: Species or race, sex, age, number of individuals, locality, etc.

To the list already published I can add fourteen, bringing the total number to forty-eight.[2]

[1] See Howard, H. Eliot: "Territory in Bird Life." Mrs. L. C. Hamill refers to "territory" as the "range-limits" of paired Song Sparrows during the nesting period.—See this *Bulletin*, Vol. I, pp. 7–10, 1925. Whittle uses the expression "nest spacing" in describing the area referred to by Howard as "Territory." See this *Bulletin*, Vol. II, p. 78–81, 1926.

[2] Birds starred were printed in Whittle's original list. Additional details are given here.

Species	Scientific Name	Sex	Age	Number of Individuals	Reported by	Remarks
Puffin	*Fratercula a. arctica*			2	H. F. Lewis, St. Mary Islands, Saguenay Co., Que.	Banded in 1923 and returned in 1927. No. 210439. Banded in 1925 and returned in 1927. No. 368667.
*Black Guillemot	*Cepphus grylle*				H. F. Lewis, St. Mary Islands Saguenay Co., Que.	Banded in 1924 and returned in 1925 to the same nest. No. 114543.
*Common Murre	*Uria t. troille*		Ad.	5	H. F. Lewis, St. Mary Islands, Saguenay Co., Que.	Four banded in 1923 and caught in 1925. Band numbers 204713, 204710, 204717, 204685. One banded in 1924, caught in 1925. No. 309456.
*Common Murre	*Uria t. troille*		Imm.	1	H. F. Lewis, St. Mary Islands, Saguenay Co., Que.	Returned in 1925. No. 5597.
*Ringed Murre	*Uria ringvia*		Ad.	2	H. F. Lewis, St. Mary Islands, Saguenay Co., Que.	Banded in 1924 and returned in 1925. Band numbers 204733 and 309402. The A.O.U. Committee on Nomenclature has not recognized the Ringed Murre although A. C. Bent gives it specific standing.
Razor-billed Auk	*Alca torda*			2	H. F. Lewis, Eastern Island, Saguenay Co., Que.	Banded in 1925 and returned in 1927. No. 368632. Banded in 1926 and returned in 1927. No. 405914.
Common Tern	*Sterna hirundo*		Imm.	5	C. B. Floyd, Tern, Island, Chatham, Mass.	Three banded in 1925 and returned in 1928 Two banded in 1926 and returned in 1928. Nos. 382270, 384122, 382692, 383959, 403143. (Captured in full-string drop traps.)
*Leach's Petrel	*Oceanodroma leucorhoa*		Ad.	1	W. Packard. Banded on Great Duck Island, Me.	Banded here in 1923 by A. O. Gross and taken from the same nest hole in 1926. No. 2519.
*Black Duck	*Anas rubripes*					Race not determined.
Northern Flicker	*Colaptes a. auratus*		Imm.	1	Vernon Haskins, Coxsackie, N. Y.	Reported to have made a migration sufficient to include the bird in this list.
			Ad.	1	Roland Williams, Winnetka, Ill.	
*Nighthawk	*Chordeiles r. virginianus*	Female	Ad.	1	A. O. Gross, Brunswick, Me.	Nested for three years on roof of Brunswick, Maine, High School. No. 17691.
*Chimney Swift	*Chatura pelagica*		Ad.	1	E. O. Grant, Patten, Me.	Banded in 1926 and returned in 1927.
*Ruby-throated Hummingbird	*Trochilus colubris*	Female	Ad.	1	Mrs. E. S. Morgan, Northeast Harbor, Me.	Banded in 1925, returned in 1926. Attracted to a window shelf of a summer hotel.
				1	do.	do.
Crested Flycatcher	*Myiarchus crinitus*	Male	Ad.	1	Mabel Gillespie, Glenolden, Pa.	Banded in 1925, returned each year to date to same nesting shelter.
*Phoebe	*Sayornis phæbe*	Male	Ad.	1	R. W. Means, Topsfield, Mass.	Banded in 1924 and returned to the same occupied nest in 1925.
		Female	Ad.	2	A. W. Higgins, Rock, Mass.	Banded in 1925 and returned in 1926. Mated both years, and occupied same nest for two seasons. Nos. 155135 and 155134.
Blue Jay	*Cyanocitta c. cristata*			1	Roland Williams, Winnetka, Ill.	Banded in 1925 and returned in 1926. No. 287494.
*Cowbird	*Molothrus a. ater*	Female	Ad.	1	R. E. Horsey, Rochester, N. Y.	Banded in 1923 and returned in 1924 and 1925. No. 69453.

Species	Scientific Name	Sex	Age	Number of Individuals	Reported by	Remarks
*Red-winged Blackbird	*Agelaius p. phoeniceus*	Male	Imm.	1	C. B. Floyd, Auburndale, Mass.	Banded in 1926 and returned in 1928. No. 482326.
		Male	Ad.	1	L. B. Fletcher, Cohasset, Mass.	Banded in 1924 and returned in 1926. No. 242704.
*Baltimore Oriole	*Icterus galbula*			4	Roland Williams, Winnetka, Ill.	Banded in 1925 and returned in 1926. Nos. 46805, 46806, 161920, 354467.
*Bronzed Grackle	*Quiscalus q. aneus*		Ad.	1	C. B. Floyd, Auburndale, Mass.	Banded in 1922 and returned in 1923. No. 23899.
*Purple Finch	*Carpodacus p. purpureus*	Male	Ad.	4	A. W. Higgins, Rock, Mass.	Banded in 1926 and returned in 1927.
		Female	Ad.			
		Female	Imm.	19	D. W. Shea, Greenland, N. H.	Banded in 1926 and returned in 1927.
		Female	Imm.			
		Male	Ad.	8	D. W. Shea, Greenland, N. H.	Banded in 1926 and returned in 1927.
*Vesper Sparrow	*Poœcetes g. gramineus*			1	Mrs. M. S. Parsons, Manchester, N. H.	Banded in 1922 and returned in 1924. No. 26244.
*Savannah Sparrow	*Ammodramus sandwichensis savanna*		Ad.	3	S. E. Allen, Plainfield, Mass.	Banded in 1922 and returned in 1923. Nos. 27444, 27449, 30821.
*Chipping Sparrow	*Spizella p. passerina*		Imm.	2	Daniel W. Shea, Greenland, N. H.	Banded in 1926 and returned in 1927.
			Ad.	10	Daniel W. Shea, Greenland, N. H.	Banded in 1926 and returned in 1927.
*Field Sparrow	*Spizella p. pusilla*			3	H. E. Childs, Charleston, R. I.	Banded in 1924 and returned in 1925. Nos. 50135, 241840, 241842.
*Song Sparrow	*Melospiza m. melodia*	Male	Ad.	2	K. W. Baasch, Baldwin, N. Y.	Banded in 1925 and returned in 1926. Nos. 159926, 159929.
		Female	Imm.	1	L. B. Fletcher, Cohasset, Mass.	Banded in 1921. Returned in 1923 and 1925. Band No. 11057.
Lincoln's Sparrow	*Melospiza l. lincolni*		Ad.	1	M. J. Magee, Sault Ste. Marie, Mich.	Banded in 1923 or 1924 and returned in 1925.
*Swamp Sparrow	*Melospiza georgiana*		Ad.	1	E. S. Rowland, Belchertown, Mass.	Banded in 1924 and returned in 1925.
*Towhee	*Pipilo e. erythrophthalmus*	Males	Ad.	13	Allan Keniston, Martha's Vineyard, Mass.	Three banded in 1923, returned in 1925, 1926 and 1927.
		Females	Ad.			Three banded in 1925, returned in 1926 and 1927.
			Imm.			Seven banded in 1925, returned in 1927.
						One banded in 1926, returned in 1927.
*Rose-breasted Grosbeak	*Zamelodia ludoviciana*		Imm.	1	Mrs. Jean E. Carth, Wellesley, Mass.	Banded in 1924, returned in 1925 and 1926.
		Male	Ad.	7	Mrs. H. C. Dunham, Wellesley, Mass.	Three banded in 1926, returned in 1927, and two returned in 1928.
		Female				Four banded in 1927, returned in 1928. Nos. 425318, 425324, 425328, 425341, 425355, 425325.
			Imm.	1	Mrs. H. C. Dunham, Wellesley, Mass.	Banded in 1927 and returned in 1928. No. 425358.
*Indigo Bunting	*Passerina cyanea*	Female		1	F. A. Saunders, Kittery Point, Me.	Banded in 1924, returned in 1925.
		Male	Ad.	1	Mrs. Herbert Salmond, Westfield, Mass.	Banded in 1925 and returned in 1926 and 1927. No. 157491.

Species	Scientific Name	Sex	Age	Number of Individuals	Reported by	Remarks
Purple Martin	*Progne s. subis*		Ad.	1	F. W. Rapp, Vicksburg, Mich.	Banded in 1922 and returned in 1924.
Cliff Swallow	*Petrochelidon l. lunifrons*		Ad.	1	Vernon Haskins, Coxsackie, N. Y.	Banded in 1924 and returned in 1925. No. 119341.
*Barn Swallow	*Hirundo erythrogaster*		Ad.	11	C. H. Preston, Danvers, Mass.	Five banded in 1923, returned 1924. Two banded in 1923, returned in 1925. One banded in 1924, returned in 1925. Three banded in 1925, returned in 1926. Nos. 56637, 56639, 56627, 56636, 56629, 56631, 92527, A5465, A5462, A5463.
*Tree Swallow	*Iridoprocne bicolor*	Male	Ad.	2	L. B. Fletcher, Cohasset, Mass.	Banded as a mated pair in 1925. Both returned in 1926 with other mates. Nos. 20422, 20423.
Bank Swallow	*Riparia riparia*	Female	Imm.	1	Dayton Stoner, Iowa Lakeside Laboratory, Ia.	Banded July 9, 1926, returned July 16, 1927, 100 yards south of place of banding. No. 36401A.
			Ad.	1	do.	Banded in 1926 and returned in 1927 fifty yards south of the hole in which it was originally captured. No. 36375A.
*Yellow Warbler	*Dendroica a. aestiva*	Male	Adult	1	F. A. Saunders, Kittery Point, Me.	Banded in 1924, returned in 1925.
Black-throated Blue Warbler	*Dendroica c. caerulescens*	Female	Ad.	1	Katherine C. Harding, Lake Asquam, N. H.	Banded in 1927, returned in 1927. No. A65065.
Chestnut-sided Warbler	*Dendroica pensylvanica*	Female	Imm.	1	R. B. Harding, Holderness, N. H.	Banded as fledgling in 1926, returned in 1927. No. A65059.
		Male	Ad.	1	do.	Banded in 1926, returned in 1927. No. 14374.
*Maryland Yellowthroat	*Geothlypis t. trichas*		Ad.	1	Edward S. Rowland, Norwich, Conn.	Full details lacking.
Hooded Warbler	*Wilsonia citrina*	Female	Ad.	1	T. D. Carter Passaic Co., N. J.	Banded in 1923, returned in 1924. Probably in 1925 and 1926. No. 36074.
*Redstart	*Setophaga ruticilla*		Ad.	2	F. A. Saunders, Kittery Point, Me.	Banded in 1926 and returned in 1927. Banded in 1924 and returned in 1925.
*Catbird	*Dumetella carolinensis*	Male	Ad.	1	H. G. Whittle, Peterboro, N. H.	Banded 1923. Returned 1924, 1925. No. 46219.
		Female	Ad.	1	do.	Banded 1924, returned 1925. No. 46323.
			Ad.	1	R. E. Horsey, Rochester, N. Y.	Banded 1923, returned 1925. No. 69450.
*Brown Thrasher	*Toxostoma rufum*		Ad.	1	R. E. Horsey, Rochester, N. Y.	Banded 1924, returned 1925. No. 259183.
*House Wren	*Troglodytes a. aedon*	Male	Ad.	Many	S. P. Baldwin Gates Mills, Ohio	Details already published by Baldwin.
		Female	Imm.			
*Wood Trush	*Hylocichla mustelina*			3	Mrs. F. D. Hubbard, New Haven, Conn.	Banded in 1923 and returned in 1924. Nos. 48535, 48540, 48549.
* Robin	*Planesticus m. migratorius*		Imm.	1	Vernon Haskins, Coxsackie, N. Y.	Banded in 1924, returned in 1925 and 1926.
				1	E. U. Ufford, Auburndale, Mass.	Banded in 1922, returned in 1923 and 1925. No. 17203.
Bluebird	*Sialia s. sialis*		Ad.	1	A. W. Higgins, Rock, Mass.	Banded in 1924 and returned in 1925. No. 71950.
			Ad.	2	H. E. Childs, Providence, R. I.	Banded in 1923 and returned in 1925 and 1926. No. 39936. Banded in 1924 and returned in 1925. No. 241548.

Banders have had interesting experiences in connection with the recovery of some of the species. Dr. Daniel W. Shea banded a brood of Chipping Sparrows in the Sarah A. McCarthy Sanctuary, Greenland, New Hampshire, in 1926.[1] The nest was built in a grape-vine. The following year one of the nestlings returned to Greenland with a mate and their nest was placed in the same grape-vine that was the birthplace of one of the pair the previous year. Another banded in 1926 returned to the Sanctuary and bred in a climbing rose-bush two hundred feet from the spot where it was reared.

A Bank Swallow banded by Dayton Stoner on July 8, 1925, as a fledgling was recovered on July first of the following year in the same gravel-pit, twenty yards from the hole where it was hatched.

An Eave Swallow banded by Vernon Haskins on June 10, 1924, returned the next year and was recovered on June 29th. The following account by Mr. Haskins is of interest: "The Eave or Cliff Swallow you mention was banded by me at Durham Center, New York, on the tenth day of June, 1924, and was the tenth bird that I ever banded. It was an adult and was captured on the nest under the eaves of a granary. It appeared very tame and was reluctant to leave my hand. On June twenty-fifth, 1924, I re-caught the bird easily, as before, by putting up a ladder and climbing to the nest, reached in and secured the bird. On June twenty-nine, 1925, I again re-caught the bird as I did the year before. The new nest was built in almost the identical place as during the former year. Since then I have not captured this bird. It bears band No. 119341."

Mrs. Horace C. Dunham of Wellesley, Massachusetts, has banded over eight hundred birds from a second-story window shelf, representing twenty-four species. Of this number fifty-two were Rose-breasted Grosbeaks. The adults brought their young to the shelf to feed, and mature Grosbeaks of 1926 were taken in 1927, and the young of July, 1927, banding appeared on the feeding shelf in the same month of 1928.

Auburndale, Massachusetts

[1]Shea, Daniel W.: *Bulletin N. E. B. B. A.*, Vol. IV, No. 1, p. 3.

SPRING MOLT OF THE EVENING GROSBEAK

BY M. J. MAGEE

SOME Evening Grosbeaks (*Hesperiphona v. vespertina*), possibly all, have a very slight spring molt. From April 15, 1928, (my first date for finding a new feather showing) to May 13th, I examined over ninety-three birds of this species, only twenty-four showing any signs of molt. The last one showing any new feathers was on May 3rd. From May 4th to 13th I examined fourteen more, but was unable to find any signs of molt on any of them. The last one banded this spring was on May 13th. A few Grosbeaks came to feed off and on after that date to May 29th, when one male and one female appeared.

They can be found all summer some fifty miles to the west of the Soo, in heavily timbered regions.

Following are the data from my cards on the twenty-four birds, including both sexes, indicating molt:

582663—Male, probably a 1927 bird, inner margins of the tertiaries quite black.
Banded Jan. 18, 1928.
Repeated Feb. 2, Mar. 1, 2; Apr. 1, 15, 23.
Apr. 15th, one new feather showing on occiput, three on cervix.
Apr. 23d, about same, apparently no more new feathers.

582803—Male, probably adult, no black or dusky inner margins of tertiaries.
Banded Apr. 18, 1928.
One new feather showing on cervix.

582804—Female.
Banded Apr. 20, 1928.
Two new feathers showing on throat; several on cervix.

482110—Female.
Banded Dec. 25, 1927.
Repeated Jan. 21, Feb. 7, Mar. 29, Apr. 21.
Apr. 21st, one new feather showing on cervix.

582736—Female.
Banded Feb. 11, 1928.
Repeated Feb. 18, Apr. 1, 24.
Apr. 24th, one new feather on crown.

482150—Female.
Banded Jan. 8, 1928.
Repeated Jan. 11, Apr. 24.
Apr. 24th, several new feathers on crown and occiput, one on cervix.

482101—Male.
Probably adult. No black or dusky inner margins to tertiaries.
Banded Nov. 23, 1927.
Repeated Jan. 16, Feb. 11, Apr. 24.
Apr. 24th, one new feather on occiput.

582800—Female.
Banded Apr. 15, 1928.
Repeated Apr. 17, 25.
Apr. 25th, one new feather on crown, one on cervix, four on rump.

482112—Male, probably a 1927 bird, inner margins of tertiaries dusky.
Banded Dec. 25, 1927.
Repeated Jan. 10, 16, 19, Apr. 2, 25.
Apr. 25th, quite a number of new feathers on crown, occiput, rump, cervix, and sides of neck.

582772—Male, probably a 1927 bird, inner margins of tertiaries quite black.
Banded March 18, 1928.
Repeated Apr. 4, 15, 25.
Apr. 25th, a good many new feathers on crown and on occiput.

482125—Male, probably adult, no black or dusky inner margins to tertiaries.
Banded Dec. 27, 1927.
Repeated Dec. 30, 1927; Feb. 2, Apr. 2, 26, 1928.
Apr. 26th, could find no new feathers, but some rump feathers were loose, about half a dozen feathers coming out in gathering-cage.

582786—Female.
Banded March 29, 1928.
Repeated Apr. 15, 26.
Apr. 26th, one new feather on rump.

582802—Male, probably adult. No black or dusky inner margins to tertiaries.
Banded Apr. 17, 1928.
Repeated Apr. 18, 22, 26.
Apr. 26th, one new feather on rump.

582754—Male, probably adult. No black or dusky inner margins to tertiaries.
Banded Feb. 29, 1928.
Repeated March 21, Apr. 27.
Apr. 27th, quite a good many new feathers on cervix.

482113—Male, probably a 1927 bird. Inner margins of tertiaries heavily black.
Banded Dec. 25, 1927.
Repeated Jan. 19, Apr. 27.
Apr. 27th, quite a good many new feathers on cervix.

482147—Female.
Banded Jan. 8, 1928.
Repeated Jan. 11, Feb. 3, Apr. 27.
Apr. 27th, quite a good many new feathers on rump and cervix.

582715—Male, probably a 1927 bird. Inner margins of tertiaries heavily black.
Banded Feb. 5, 1928.
Repeated Mar. 1, Apr. 28.
Apr. 28th, three new feathers on cervix.

582712—Male, probably a 1927 bird. Inner margins of tertiaries black.
Banded Feb. 4, 1928.
Repeated Apr. 28.
Apr. 28th, quite a number of new feathers on crown, occiput, cervix, and rump.

582811—Female.
Banded May 1, 1928.
Four new feathers on forehead, three on crown, three on cervix.

582812—Female.
Banded May 1, 1928.
Two new feathers on cervix.

582801—Male, probably adult. No black or dusky on inner margins of tertiaries.
Banded Apr. 15, 1928.
Repeated May 2.
May 2d, several new feathers on cervix.
Some loose feathers on rump.

582659—Male, probably a 1927 bird. Inner margins of tertiaries black.
Banded Jan. 16, 1928.
Repeated Jan. 22, Mar. 28, Apr. 15, May 2.
May 2d, some loose feathers on rump.

482102—Male, probably a 1927 bird. Inner margins of tertiaries blackish.
Banded Dec. 21, 1927.
Repeated Dec. 27, 1927; Jan. 5, 8, 19; Feb. 2, 5, 23; Mar. 2; April 28; May 2.
May 2d, one new feather on occiput.

345012—Adult Female.
Banded April 6, 1925.
Returned May 3, 1928.
May 3d, five new feathers on rump.
Repeated May 8th. Apparently no further molt.

Dr. Dwight in his paper "The Sequence of Plumages and Moults of the Passerine Birds of New York" under "First Winter Plumage Male Evening Grosbeaks" says, "The young may be distinguished usually by the dusky inner margins of

the tertiaries but differ very little from adults." You will note that signs of molting in my male birds are not confined to those showing the dark inner edgings; so, if Dr. Dwight is correct, the molt is not confined to young males. I cannot tell as to females, as I do not believe the young ones can be separated from the older with any certainty. The molt is apparently greatest on the nape. It is not very easy to look over live birds as carefully as you would like to do, but on the great majority of my birds I could find no indications of any new feathers.

Among some notes on Evening Grosbeaks sent Dr. John B May by Mrs. H. G. Pratt, who operates a banding station at West Hartford, Connecticut, Mrs. Pratt reports that the birds begin to lose feathers by March 15th. On March 24th a female showed a light area on the throat, and by March 29th, most females showed this light area. On April 19th, one male had a featherless ring of bare skin encircling the neck. She states that up to May 27th, no evidence had appeared that young Grosbeaks have a spring molt.

Next spring I hope to make another check and will report my findings.

Sault Ste. Marie, Michigan.

IMPORTANT NOTICE

THERE is an increasing demand for sets of the *Bulletin*. We are, however, unable to supply them. Of No. 1, 1925, (the first number issued) we have but eleven copies, and of No. 3, October, 1926, we are entirely out. It probably will be necessary in the near future to have reprints of these two numbers which will cost about Two Hundred Dollars ($200.00.) In the mean time the Secretary would like to have banders return any duplicate copies they may have of *any* number of the *Bulletin*, and especially of the two numbers mentioned above.

NORTHEASTERN BIRD-BANDING ASSOCIATION,

CHARLES B. FLOYD, *Secretary*.

GENERAL NOTES

Cowbird with Tuberculosis.—Recent experience with a Cowbird (*Molothrus a. ater*) may be of interest. On May 5th last, a male and female Cowbird were taken together in my drop-door trap No. 3, the female receiving band No. 580811 and the male No. 580812. This pair of Cowbirds repeated in the same trap on June 24th, and another male was noted hanging around the outside of the trap when I went out to get the pair. The female alone repeated again on June 25th. On July 25th a near neighbor brought in the male Cowbird, No. 580812, which had been found in a pony stable on his place and seemed unable to fly. The left side of the breast bulged very noticeably. We kept this bird in a cage over night where it partook readily of water and a mixture of hemp, canary, and millet seed. The next morning it seemed so much better and was making such efforts to escape from the cage that it was released early in the forenoon. The same evening (July 26th) it was returned to us by the same neighbor, having been again found in close proximity to the stable. Its evident condition was such that we returned it to the cage, where it showed less interest in food and water. During the next day or so, it was observed less and less seldom to pay any attention to food or water, and on July 28th, in mid-afternoon, it was found to have died.

The bird, in accordance with my recent practice, was forwarded by first-class Special Delivery to Dr. C. B. Hudson, Poultry Pathologist, New Jersey State Experiment Station, New Brunswick, New Jersey. He has just made the following report to me:

"The specimen which you sent in has been examined and found to have tuberculosis. This is rather an important finding in that tuberculosis has not been reported to have been found in wild birds. We will probably publish a note on this finding, in which case we will send you a reprint. I wish to thank you for sending in this specimen."—B. S. Bowdish, Demarest, New Jersey, August 7, 1928.

Some Catbird and Brown Thrasher Nesting Data.—The following records have to do with two years' experiences with nesting Catbirds (*Dumetella carolinensis*) and Brown Thrashers (*Toxostoma rufum*) in Riverside Park, Indianapolis, Indiana. The nests of all the Brown Thrashers were placed close to the edge of a lagoon or on an island therein. It will be noted that the Thrashers show no tendency to remate on succeeding years, though the adults return to the place where they were banded. In the case of this species it is too early to see whether the fledglings also return.

In the case of the Catbirds, however, one pair which raised two broods in 1926 returned in 1927, mated for the second year, and raised a brood within a few feet of their former ones in the same clump of syringa. The details follow:

July 20, 1926. Catbird 166026 and Catbird 166030 nested and raised brood of two fledglings (166043 and 166044) in small tree. No. 166030 was retrapped thirty feet away in a syringa clump at nest mated with 172727 on July 2, 1928. This pair raised three fledglings (172728, 172729, and 172730).

Catbird 476814 was mated with Catbird 356968 on June 16, 1927, and brought off four fledglings (476811, 476812, 476813, 356969) in a syringa clump. No. 356968 was trapped on June 21, 1928, mated with Catbird 579504, ten feet from former nest in an adjoining clump of osier dogwood, where the nest contained four fledglings (627064, 627065, 627066, 627067).

Catbird 146857 and Catbird 146858 nested in a syringa clump, where

they and a brood of two (166018 and 166019) were banded June 6, 1926. The same pair of adults built again in the same clump and raised three young (166033, 166034, and 166035) in July, 1926, banded July 11, 1926. On June 23, 1927, the same pair was retrapped, still mated, at their nest a few feet from the former ones in the same clump, where the fledglings were banded with numbers 476804, 476805, and 356971.

Brown Thrashers

1925

357021 adult ♀
357022 " ♂ } mates, banded July 13th.
(Fledglings 357001)

1926

357022 adult ♂
357932 " ♀ } mates, banded, May 19th
(Fledglings 357921
357925
357926
357927)

357932 adult ♀
467866 " ♂ } mates (2d brood for 357932), banded July 14th
(Fledglings 360197
360198)

357022 adult ♂
— " ♀ } mates (2d brood for 357022), banded July 20th
(Fledgling 339259)

Samuel E. Perkins III, Indianapolis, Indiana.

Interesting Banding Totals from Milford, New Hampshire.—Mr. James P. Melzer, of Milford, New Hampshire, sends some unusual banding records for the winter season of 1927–28. His totals for four species were: Purple Finches, two hundred and fifty-six; Goldfinches, seventy-six; Chickadees, thirty-one; and Siskins, seventeen.

The number of Chickadees banded in a single season is especially noteworthy and appears to indicate a concentration in a given locality. The details of the grouping of these thirty-one birds from day to day would be of interest.

Wintering Goldfinches to the number of seventy-six is another rather unexpected number of this species wintering in the latitude of Milford, and so, too, is the abundance of Purple Finches. In Peterboro, New Hampshire, seventeen miles northwest of Milford, we have noted that Purple Finches and Goldfinches have not been seen during the winter-time for the last five years.—C. L. W.

Purple Finch Recovery.—One of the more than five hundred Purple Finches we banded in the winter of 1922–1923, No. 67518, was banded at Demarest, February 6, 1923, and trapped by W. H. Moore at Glassville, New Brunswick, Canada, June 14, 1928.—B. S. Bowdish, Demarest, New Jersey, July 20, 1928.

A Cowbird Recovery.—A Cowbird (*Molothrus a. ater*) banded by me in Cohasset, Massachusetts, May 5, 1926, was shot by Mrs. P. Blew at Bridgeton, New Jersey, August 9, 1928.—L. B. Fletcher.

A Common Tern Recovery.—Mr. Charles B. Floyd reports that a Common Tern, a nestling, banded by him at Tern Island, Chatham, Massachusetts, July 5, 1927, was killed by Dr. Passerieux at Colonial Hospital, Cayenne, French Guiana, December 20, 1927.

CORRESPONDENCE

Freeport, Maine,
October 3, 1928.

Mr. Charles B. Floyd, Secretary, Northeastern Bird-Banding Association:

We were unfortunate this year in not having time to do as much banding as we hoped to do, for Labrador with its thousands of islands offers a wonderful opportunity for good work in this line. Given time, one could easily band a thousand birds such as the Herring Gull, Great Black-backed Gull, Glaucous Gull, Razor-billed Auk, Puffin, Black Guillemot, and Murre, both *Uria troille troille* and *Uria lomvia lomvia*.

These are the birds on the Labrador which are most easily banded, and which we did band. There are innumerable Eider Ducks, but a man must be "Johnny on the spot," as you know, to band the young. Once dry and they are away for a pool on the island or for the sea.

To me the big thing of interest in the bird line on the Labrador is to find the nesting place of the three Scoters, the American, White-winged, and Surf, neither one of which is reported as breeding on the Labrador, yet they outnumber all other birds on the coast. I am surprised that I have found no native as yet who has ever found a nest!

I am anxiously looking forward to next year when I shall have more time to band, to study, and to settle definitely the status of so-called facts in ornithology which I feel should be accepted at least a bit reluctantly.

Very truly yours,
DONALD B. MCMILLAN.

To the Editors of the Northeastern Bird-Banding Association:

On the 15th of July, 1928, in the afternoon I started from Oak Bluffs for the Gull and Tern colony at Muskeget Island, which has an area of approximately five hundred acres. This island is about seventeen miles east of Oak Bluffs, Martha's Vineyard, and is a trip of two hours and a half by cat-boat, using both power and sail. The island is low, composed of sand and covered in part by small sand-dunes. The whole island above high water mark is covered with beach-grass and ivy, with the exception of the wide border of marsh on the southwest side. But few people live here, perhaps a dozen in summer and about half that in winter.

The few fishing-shacks and the old life-saving station are located close to the high-tide mark. All the remaining area is used as a breeding-ground for Gulls and Terns.

During the past few years the Laughing Gulls and Herring Gulls have been rapidly enlarging their breeding-grounds and driving the Common Terns to more restricted areas. The Roseate Terns seem to get along with the Laughing Gulls in friendly fashion, as I found on my yearly trips, as well as on this occasion, the birds nesting and rearing their young on the same area.

I reached the island near sundown, and, after putting our baggage and stores into the camp hired for the purpose, we wandered over a part of the island to size up the situation and band a few birds. The next morning (Monday) we borrowed a boat and visited a small island (belonging to Muskeget) where most of the Herring Gulls breed. A very heavy fog swept the island all day. On our return at night the tide was low, which necessitated hauling the boat by hand quite a bit of the way. We saw eleven Black Ducks feeding, forty-eight Knots (Red-breasted Sandpipers) feeding, and several flocks of from five to nine flying.

The next day dawned clear and warm, and a long day was spent in catching and banding Laughing Gulls with an occasional Tern for variety. I also made and erected a rude blind to be used for photographic purposes.[1]

The next day was spent in banding Laughing Gulls and Terns, taking pictures, and visiting a small sand island where a few more Herring Gulls were breeding. By this time we were feeling the very unpleasant effects of poison ivy. My young assistant, who, in his eagerness to qualify as such, stated that he was never poisoned by ivy, got a bad case.

The colony of Laughing Gulls is growing very rapidly, and the island is one of the most interesting places in the State, from the bird-lover's viewpoint at least. The colony of Herring Gulls is also showing a marked increase over last year.

While we were banding the Herring Gulls, very few of them moved from the spot where they felt themselves to be hiding, even though all but the head was exposed. All that was necessary was to pull out a leg, place the band and look for another bird.

[1]An enlarged photograph of two adult Laughing Gulls is shown on the cover of this number of the *Bulletin*.

In banding the Laughing Gulls (no laughing matter) far different tactics had to be followed. These young birds were very clever in hiding. Paths extending through and under the dense ivy cover afforded the young a retreat which was very secure. I am sure in many cases the young ran at too near approach, and as these covered paths were very numerous and seemed to go in every direction, and had innumerable side runs, one can imagine the difficulty experienced in trying to band a large number in a short time.

At all hours, daytime or late at night, their clamor could be heard even inside the camp. These Gulls seemed to lose much of their fear in a short time and settled close by on the ground all around. Only those whose young were close at hand hovered overhead. It was a very pretty sight to see hundreds of these beautiful birds all about, many within twenty-five yards sitting on the ground. As one walked along, those in front arose as a cloud and settled on the ground again behind you.

One of the very interesting sights arises from the presence of a narrow little pond of fresh water extending perhaps fifty yards in a southwest to northeast line and about fifty feet in width. A continual stream of birds dipped their bills in the water for a drink while on the wing. The wind was on this particular occasion southwest, and the birds entered at the northeast end and continued out the southwest end, repeating the process if not satisfied. This continual procession made a very pretty picture and I felt as I watched that we were very fortunate to have this little fresh pond, thus separated as it is by a few feet of sand from the Atlantic.

With the protection that this island is now getting, and the complete absence of cats, the growth of the colony is assured.

I enclose the record of birds banded on the trip:

Herring Gulls (*Larus argentatus*)	143
Laughing Gulls (*Larus atricilla*)	404
Common Terns (*Sterna hirunda*)	41
Roseate Terns (*Sterna dougalli*)	24
Total	612

ALLAN KENISTON.

Martha's Vineyard Reservation, Vineyard Haven, Massachusetts.
August 6, 1928.

To the Editors of the Bulletin of the Northeastern Bird-Banding Association:

The item in the July *Bulletin* (1928) on "Another Tree Sparrow Record of Importance" recalled to my mind the story of my Tree Sparrow No. 26978. This bird was banded by me here at Groton on February 25, 1923, repeated on March 9th, and was found dead by H. L. Spinney at Phippsburg, Maine, on April 7, 1926. As I did little banding here during the winters following 1923, it is not improbable that No. 26978 may have returned during the next three winters to its wintering-ground of 1923 without my being aware of it. Phippsburg, as you probably know, is on the coast a short distance beyond Portland.

The note on "Preponderance of Male Chewinks" (in the same number) suggested my looking up my records of banding this species at Summerville, South Carolina. I find that in 1926 I banded thirteen males and five females, in 1927 six males and seven females, and in 1928 twenty-three males and twelve females. Thus in the three winter seasons, forty-two males and twenty-five females were banded. While the taking of more males may have been a coincidence, the figures indicate the possibility of a preponderance of that sex during the past three years.

WILLIAM P. WHARTON.

Fiveoaks Farm, Groton, Massachusetts, August 11, 1928.

THE LURVEY TRAP CAGE
FOR BIRD-BANDERS

Horizontal and vertical doors, tripped by balanced feed tray, operating together

Trap Cages of any size made to order.

Regular sizes always on hand.

Canary Breeding, Flight and Shelf Cages, all sizes.

Other Cages made to order.

Write F. J. LURVEY for prices
258 Broadway, Somerville, Mass.
Phone Somerset 0688-J

Packard Special Mixture Bird Food

TRY IT AND YOU WILL BE CONVINCED THAT
IT IS MOST ATTRACTIVE TO WILD BIRDS

10 lbs. $2.00 50 lbs. $6.00
Postage extra or express collect

People who have used it for years say: "Nothing else like it; nothing else so good." It is the best.

Write for my free catalogue of
EVERYTHING FOR WILD BIRDS

WINTHROP PACKARD, 1452 Washington Street, Canton, Mass.

if it is printed at all it had better be printed well. Send us your next piece of printing. It will be handled with a personal interest and care that will certainly increase its value to you without necessarily increasing its cost.

Goss Company

Printers

19 High Street Boston

FEED WILD BIRDS

FISKE'S
QUALITY MIXTURE
CHOICE
BIRD SEED

Blended according to the recommendations of the Northeastern Bird-Banding Association for small and large birds. There is quality in this mixture of choice, plump, recleaned Chick Feed, Sunflower, Millet, Hemp and Canary.

5 lb. $1.00 10 lbs. $1.50 25 lbs. $3.25
Postage Extra

FISKE SEED CO.

New England's Leading Seed Store

12 and 13 Faneuil Hall Square
Boston 9, Mass.

BIRD HOUSES

Size No. 1, for Bluebirds, Tree Swallows and Woodpeckers
$1.00 each, 6 for $5.40

Size No. 2, for Wrens and Chickadees,
$1.00 each, 6 for $5.40

Size No. 3, Special Trap House for Bird Banders. Roof or front easily and quickly opened. $1.50 each
Reduction for six or more

Wooden Suet Box, wire front, 35 cents
Wire Suet Box 40 cents

BOOKS

Old and rare, out-of-print books and pamphlets, bird magazines of all publications, complete, in volumes or separate numbers. Mail orders only.

BOSTON BIRD BOOK CO.

162 Boylston Street Boston

Out-of-Doors
in New England

ILLUSTRATED LECTURES ON BIRDS, BEASTS, AND BLOSSOMS

Dr. John B. May, Cohasset, Mass.

A small girl said "There were three whole schools there and you could have heard a pin drop."

The secretary of a Bird Club wrote "The lecture proved to be interesting and instructive to both adults and children."

The Park Museum of Providence has crowded its lecture hall on three different occasions.

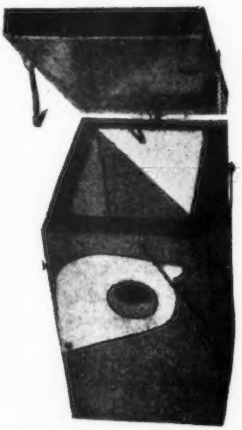
ILLUSTRATED CIRCULAR ON REQUEST

NOTICE TO BIRD-BANDERS

If you wish to band Flickers, Crested Flycatchers, Bluebirds, Tree Swallows, Chickadees and Wrens this season, you need a "Nebba" nesting-box trap.

Made of White Pine Stock

STAINED GREEN



As Good as the Best

EASY TO OPERATE

THE BIRDS USE THEM

They have an inner door of hard-ware cloth which prevents birds escaping. The metal shutter is also a rodent protector, which will not close by accident, yet stays closed when a bird is taken.

Order by No. and Name—Cash with order

Size 1—Bluebirds and Swallows; 1A—Crested Flycatchers; 2—Chickadees and Wrens; 3—Flickers.

Price $1.25 delivered in first four zones; other zones 20c extra. 50c reduction on six. Flicker size—$1.75. Delivery same as others.

Higgins' latest—2 and 4 combination. A two-in-one trap. One end, the No. 4 entrance—automatic. The other end, No. 2 "Twodoor" pull string. Both traps for the price of one.

Two-or three-mesh wire $5.75
Five-mesh wire 6.00

All traps smoothly finished, no sharp corners to injure the birds. All nicely painted, loam color.

Suet-holders—30 cents each—6 or more 25 cents each.

Circular free

A. W. HIGGINS **Rock, Mass., R. F. D. 23**